

ACCESSION NR: AP4039730

S/0141/64/007/002/0300/0305

AUTHORS: Markus, F. A.; Cheremukhin, A. M.

TITLE: Measurement of the spatial spectrum of refractive-index fluctuations with the aid of a lens

SOURCE: IVUZ. Radiofizika, v. 7, no. 2, 1964, 300-305

TOPIC TAGS: light refraction, refractive index, spectral analysis, inhomogeneous gas media, statistical analysis

ABSTRACT: Apparatus used for the measurement of the spatial spectrum for visible light is described. The equipment consisted of two collimators with facing lenses, with a slot at the focal plane of the first collimator serving as the light source, and with the observations carried out in the focal plane of the second collimator. The light was scattered by inhomogeneities resulting from the production of constant temperature gradients in the air. The different

Card

1/2

ACCESSION NR: AP4039730

manifestations of the refractive-index fluctuations are discussed and the smallest size of irregularity of the refractive index is estimated to be about 1.5 cm. The method and the apparatus are suitable also for the study of all kinds of small random inhomogeneities that are transparent to visible light. Orig. art. has: 3 figures and 3 formulas.

ASSOCIATION: Gor'kovskiy gosudarstvenny\*y universitet (Gorkiy State University)

SUBMITTED: 11Jun63

DATE ACQ: 19Jun64

ENCL: 00

SUB CODE: OP, MA

NR REF SOV: 003

OTHER: 001

Card

2/2

KAFFKA, Karoly; GYORGY, Zoltan; VAMOS, Tibor, dr.; RITTER, Endre; MARKUS, Ferenc; BOROMISSZA, Gyula, dr.; BUJTAS, Laszlo, dr.; BUJTAS, Laszlo, dr.; EDELENYI, Laszlo; BAN, Tamas, dr.; TEGZE, Miklos, dr.; ALPAR, Imre; KERECSENYI, Gyorgy; GANGER, Gyorgy; VARGA, Istvan.

Present state and perspectives of the automation in the food industry. Elelm ipar 18 no.2:33-36 F'64

1. Committee on Measuring and Control Technique, Scientific Association of the Agricultural and Food Industry, Budapest (for Kaffka).
2. Directorate of Instrument Industry, Ministry of Metallurgy and Machine Industry, Budapest (for Gyorgy).
3. National Committee on Technical Development, Budapest (for Vamos).
4. Central Committee of Automation, Budapest (for Ritter).
5. Secretariat of Automation, Ministry of Metallurgy and Machine Industry, Budapest (for Markus).
6. Ministry of Food, Budapest (for Bojtas).
7. Technical Department, Ministry of Food, Budapest (for Alpar).

MARKUS, Gyorgy

Idealogical and methodological problems of materialistic  
psychology. Magy psichol szemle 17 no.2:195-201 '60.

1. Magyar Tudomanyos Akademia Filozofiai Intezete.

MARKUS, Gyorgy

On the present-day bourgeois philosophy and the methodological problems of its criticism. Magy tud 69 no.6/7:381-392 Je-Jl '62.

1. Magyar Tudomanyos Akademia Filozofiai Intezete tudomanyos munkatarsa.

MARKUS

Applied Mechanics

Volume I

Nov. 1954

Plates, Shells,

Membrane.

754. Márkus G., Analysis of circular plates by the method of moment distribution (in Hungarian, with English and German summaries), Vízsgai Közlemények no. 1, 44-80, (18)-(20), 36 pp. of diagrams, 1952.

The method of moment distribution is applied to circular and annular plates exactly in the same way as to continuous girders. Signs of the initial fixed-edge moments are determined for the part of the plate to the left of its center. Distribution of moments is made only for radial moments. Tangential moments are determined from radial moments on supports, already computed. The determination of moments  $M_r$  and  $M_t$  is made in each case in three steps: First, the moments are determined for the freely supported plate in case of loading acting within the span; secondly, for the same plate span moments due to continuity of the plate or to fixed-edge moments are determined; finally, these two are summarized. The same method is followed in determining reactions. It is commendable to do the calculation in a tabular form.

From author's summary by D. Vasarhelyi, USA.

Márkus, Gy.

## H U N G A R Y

Bu. Designing circular storage basins with flat top and bottom by the moment distribution method  
Sikló József et al. Irányelvű műszaki számítás a körárokhoz - Gy. Márkus (illy-  
draulics Engineering - Vízgyűjtő Közreműködés) No. 2,  
pp. 303-393, 49 figs., 12 tabs.)

Because of the circular symmetry of structure and loading, circular storage tanks bounded by flat top and bottom plates can be designed as space frame structures while the computation is made in a plane section. The frame has shiftable joints, the latter can shift both vertically and horizontally under load. Horizontal shifting is due to internal water pressure or external earth pressure since reactions transmitted at the ends of the cylindrical wall compress or extend the bottom plate. Joints are shifted vertically under non-uniform loads and as a consequence of the elastic subspace. Horizontal and vertical shifting of joints is disregarded in this article, joints are assumed to be supported both in a vertical and in a horizontal sense, only their angular rotation is admitted. The basins or water tower tanks examined from a structural point of view consist of two principal parts (1) circular (annular) plate and (2) cylindrical side wall. In the present article the flexure theory of a circular, symmetrically loaded shell having a surface of rotation and constant wall thickness, the cylindrical side wall and its various cases of loading are dealt with in detail. Formulas are developed by which the cylindrical side wall can be integrated in the frame composed of plates.

MARKOS, G.

93. Calculation of circular discs of cylindrical reservoirs.  
Gy. MARKOS. Vizsgai Közlemények, 1956, No. 1,  
pp. 97—118, 18 figs.

To complete the calculation method presented in previous papers by the author the calculation of the bottom of cylindrical liquid storage reservoirs is dealt with. Since radial normal forces are also caused by the liquid load at the intersection of the cylindrical wall and of the bottom slab, the structure also acts as a circular disc. The numerous examples presented show that in the case of a two-compartment reservoir or in the case of varying bottom thickness the radial distribution of stresses differs from tangential distribution. In calculating cross sections and in distributing reinforcements the disc effect should mainly be considered with high water columns (water towers).

KARBU, CY.

self-sufficient pieces.

J. C2 (U.S. Board of Trade Report, January, Vol. 12) No. 1/1, . . .

See 'Monthly Index of East European Trade' (EERI) Vol. I, No. 1, November 1948.

GNADIG, Bela; MARKUS, Gyula; THOMA, Jozsef

Development of the construction of water tanks in Hungary.  
Vizugyi kozl no.2:133-165 '58.

1. Melyepitesi Tervezo Vallalat.

MARKUS, GY.

Static measuring and foundation work of purifying plant with cone filters. p. 50<sup>5</sup>.

MELYEPITESTUDOMANYI SZEMLE. Budapest, Hungary. Vol. 9, no. 7, July 1959.

Monthly List of East European Accessions (EEAI), LC. Vol. 8, No. 9, September 1959

Uncl.

PALMIDY, Attila; MARKUS, Gyula

The surface water purifier of the Capital Waterworks. Magy ep ipar  
10 no.4:183-189 '61.

MARKUS, Gyula

Self-sustaining pipes. Vizugyi kozl no.1/2:62-74 '57.

MARKUS, Gyula, dr., okleveles mernök, a muszaki tudományok kandidáta

tusa

Up-to-date liquid reservoirs and water towers. Melyepitestud  
szemle 14 no. 2:84-93 F '64.

1. Melyepitesi Tervezo Vallalat osztalyvezetoje.

Markus, G. A.

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✓ 14. Dreyer's method of determining phenol in alkali solution. (See prepared G.A. Manuscript, page 11, item 14.)—A modification of the formula of Ebdeva and Geschtain (Z. anal. Chem., 1932, 10, 412) gives:

$$\frac{1}{n_{D} - n_{B}} = \frac{100}{\alpha_{D} - \alpha_{B}}$$

where  $\alpha$  is the percentage content of phenol in an alkaline solution,  $n_D$  is the refractive index of the phenol-alkali mixture,  $n_B$  is that of the pure phenol in solution, and  $n_{D'}$  is that of the pure alkali solution. Experimental data show that alkaline solutions with similar percentage contents of phenols, creosols and xylenols, and mixtures of phenols from medium-light and asphaltene oils have nearly the same refractive index. In Phenol-alkali mixtures with smaller alkali contents and in pure alkali solutions,  $n_D$  and  $n_{D'}$  are constants; then

A. K. Sillayn

$$\frac{d.f.}{d.n.} = \frac{100}{M_1} \cdot \frac{(n_1 - n_2)}{(n_1 - n_3)}$$

where  $n_1$  and  $n_2$  are the refractive indices of solutions containing percentages  $\alpha_1$  and  $\alpha_2$  of phenol. For solutions of similar alkali content, experimental

data shows that  $d.f.$  is practically constant. From the data above, that  $d.f.$  is the ratio of the refractive index of a phenol solution containing free alkali and the same solution after neutralization of the free alkali with phenol, the concn. of free alkali can be calculated from the equation

$$C = \frac{M_1}{M_2} \cdot \frac{[n_1 - n_2]_{d.f.}}{100 - (\alpha_1 - \alpha_2)_{d.f.}}$$

where  $M_1$  is the mol. wt. of the alkali,  $M_2$  is the mol. wt. of the phenol used for neutralization,  $n_1$  is the refractive index of the pure alkali solution, and  $n_1'$  and  $n_2$  are the refractive indices of the phenol solution before and after neutralization.

G. S. Serra

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Pm of

SOV/68-59-8-21/32

AUTHORS: Ozerskiy, G.M. and Markus, S.V.

TITLE: Corrosion and Its Prevention on a Plant for  
Continuous Distillation of Phenols (Korroziya i  
metody bor'by s ney na ustanovke nepreryvnoy  
rektifikatsii fenolov)

PERIODICAL: Koks i khimiya, 1959, Nr 8, pp 46-48 (USSR)

ABSTRACT: After a few months of operation of a continuous plant for the rectification of phenols, a severe corrosion of all metallic surfaces, particularly those in contact with the vapour phase was observed (a detailed description of the degree of corrosion of various parts is given). It was established that the main cause of corrosion is the evolution of hydrogen sulphide formed on thermal decomposition of thiophenols (1.18% in raw phenols). The resistance to corrosion of various steels has been tested and it was found that under the operating conditions steel 1Kh18N9T is most resistant. As a protective measure the distillation equipment was lined with acid resistant bricks and diabase plates. However, after 8 months of operation some wear of the lining was

Card 1/2

SOV/68-59-8-21/32

Corrosion and Its Prevention on a Plant for Continuous  
Distillation of Phenols

observed. The construction of plant for distillation  
of phenols from stainless steel is advocated. There  
is 1 figure and 2 tables.

ASSOCIATION: Fenol'nyy zavod (Phenol Works)

Card 2/2

CHERNOGORODIK, Ye.Ya.; MARKUS, G.A.

Use of blast-furnace gas for the decomposition of phenolates.  
Koks i khim. no.2:64 '60. (MIRA 13:5)

1. Fenol'nyy zavod.  
(Phenoxides)

S/068/63/000/002/003/003  
E071/E133

AUTHOR: Markus, G.A.

TITLE: Some new reagents based on products of the coking industry

PERIODICAL: Koks i khimiya, no.2, 1963, 52-54

TEXT: The production of eight reagents on pilot plant and laboratory installations is described. 2,5-xlenol, 3,5-xlenol and 3,4-xlenol were obtained by rectification of technical xlenol into fractions enriched into the respective isomers (209-212; 219-224; 224-228 °C respectively). The technical isomers were obtained by crystallization from the individual fractions on cooling. Final purification was done by repeated recrystallization from benzole. 2,5-xlenol was also obtained from the fraction boiling at 209-212 °C by sulphonation. Pure fluorene was obtained from technical product (melting temperature 106.7 to 108.9 °C) by recrystallization from a mixture with alcohol (alcohol to fluorene 1:6). The mixture is heated to the completion of solution and then cooled to 30 °C, the product precipitated is recrystallized twice more in the same manner (melting temperature 114.8-115.1 °C). Pure diphenylene oxide was obtained from

Card 1/2

Some new reagents based on ...

S/068/63/000/002/003/003  
E073/E133

technical product (m. température 80-80.5 °C) by treble recrystallization from alcohol as for fluorene. Melting temperature of the pure product 84.7-85.0 °C. Pure naphthalene was obtained by purification with 95% sulphuric acid (2% of naphthalene) and 95-97% paraform (1-2% of naphthalene), both added to molten naphthalene on stirring. After 15 minutes of stirring the mixture is left for settling, the bottom layer is separated and naphthalene after washing with alkali was fractionated. The fraction collected at 217.5 °C was considered as pure naphthalene (temperature of crystallization 80.2 °C), its sulphur content about 0.05%. Pure orthocresol was obtained by stagewise crystallization from technical product (cryst. temperature 30.2 °C); by crystallizing slowly to a temperature of 25-28 °C and separating the crystalline product, some degree of purification is obtained. By repeating the process three times and subsequent rectification, a product crystallizing at 30.9 °C was obtained. A product of similar purity was also obtained by recrystallization from water and from benzene. Pure indole was obtained by rectification of technical product (cryst. temperature 49.7 °C) and subsequent recrystallization from alcohol (cryst. temperature 51.4 °C). There are 2 tables.

Card 2/2 ASSOCIATION: Fenol'nyy zavod (Phenol Works)

BRON, Yakov Abramovich. Prinimal uchastiye MARKUS, G.A. i DMITRIYEVA,  
M.M., retsenzent; LEYTES, V.A., otv. red.; BELINA, R.A.,  
red. izd-va; ANDREYEV, S.P., tekhn. red.

[Processing of coal tar] Pererabotka kamennougol'noi smoly.  
Moskva, Metallurgizdat, 1963. 271 p. (MIRA 16:5)  
(Coal-tar products)

L 18026-66 EWT(m)/T WS  
ACC NM AP6007672

(A)

SOURCE CODE: UR/0413/66/000/003/0043/0043

45  
B

INVENTOR: Butkov, N. A.; Markus; Tlyustangelova, M. V.; Ozerskiy, G. M.;  
Chernomordik, Ye. Ya.; Sukharev, Ye. I.; Smirnov, A. M.; Bakhmutskaya, A. P.

ORG: none

TITLE: Additive to heavy fuels. Class 23, No. 178438

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 3, 1966, 43

TOPIC TAGS: fuel additive, iron containing fuel additive

ABSTRACT: An Author Certificate has been issued for an additive to heavy fuels which consists of coking waste products (naphthalene homologs and nitrogen bases). To increase the effectiveness of the additive, it is formulated to include organoiron compounds in amounts such that the additive's ash content be 0.8 to 1.5% expressed as  $\text{Fe}_2\text{O}_3$ . The organoiron compounds used are prepared by treatment with sodium hydroxide and ferric chloride of the residue from coal phenol rectification. [SM]

SUB CODE: 21/ SUBM DATE: 31Dec64/ ATD PRESS: 4A12

Card 1/1 vnb

UDC: 62-634.2

Z

MARKUS, G.O.; SAVCHENKO, V.L.

Automatic loading and unloading complex of skip hoisting  
machinery. Nauch. trudy KNIUI no.15:146-160 '64.  
(MIRA 18:8)

MARKUS, G.O.; MILLER, K.O.; MUKHIN, I.A.

Experimental automation of the preliminary coal processing  
in the Karaganda Central Coal Preparation Plant. Ugol' 37  
no. 6:43-48 Je '62. (MIRA 15:7)  
(Karaganda Basin—Coal preparation plants)  
(Automatic control)

IVANCHENKO, Georgiy Yevtikhievich, prof., doktor tekhn. nauk;  
MARKUS, Georgiy Oskarovich; SAVCHENKO, Vladimir Leont'yevich;  
LEVIDOV, Yuriy Samoilovich; LANGE, Mark Vasil'yevich; PESIN,  
Naum Yakovlevich; BOZHANOV, S.M.; MIRSKAYA, V.V., red.izd-va;  
LAVRENT'YEVA, L.G., tekhn. red.

[Automatic control of hoists] Avtomatizirovannoe upravlenie  
mashinoi. Pod red. G.E.Ivanchenko. Moskva, Gosgortekhizdat,  
1963. 116 p. (MIRA 16:5)

(Karaganda Basin--Mine hoisting)  
(Automatic control)

NESIS, A.I.; MARKUS, G.O.; SAVCHENKO, V.L.

Safe fluororoenkymograph. Nauch. trudy KNIUI no.16:258-262 '64.  
(MIRA 18:7)

9(2,3)

06532

SCV/142-2-2-8/25

AUTHORS: Frolkin, V T., Markus, G.V.

TITLE: The Analysis of a Differentiator Amplifier

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Radiotekhnika,  
1959, Vol 2, Nr 2, pp 186-194 (USSR)

ABSTRACT: The authors analyze the accuracy of an operational differentiator amplifier taking into consideration parasitic circuit elements. Figure 2 shows a block diagram of such an operational differentiator amplifier. Figure 3 shows the principal circuits of a single-stage operational differentiator amplifier. In their conclusions, the authors give some recommendations for selecting the principal amplifier parameters based on the formulae of the analysis. There are 4 circuit diagrams and 2 Soviet references.

Card 1/2

06532

The Analysis of a Differentiator Amplifier SOV/142-2-2-8/25

This article was recommended by the  
Kafedra radioustroystv Moskovskogo ordena Lenina  
aviatsionnogo instituta imeni Sergo Ordzhonikidze  
(Chair of Radio Equipment of the Moscow - Lenin Order  
- Aviation Institute imeni Sergo Ordzhonikidze)

SUBMITTED: May 16, 1958 (initially)  
June 23, 1958 (after revision)

Card 2/2

MARKUS, G. V.

PHASE I BOOK EXPLOITATION

SOV/5197

Moscow. Aviatsionnyy institut imeni Sergo Ordzhonikidze

Voprosy impul'snoy tekhniki i elektronnykh vychislitel'nykh ustroystv; sbornik statey (Problems in Pulse Technique and Electronic Computers; Collection of Articles) Moscow, Oborongiz, 1960. 102 p. 9,150 copies printed. (Series: Its: Trudy, vyp. 126).

Sponsoring Agencies: Ministerstvo vysshego i srednego spetsial'nogo obrazovaniya RSFSR, and Moskovskiy ordena Lenina aviatsionnyy institut imeni Sergo Ordzhonikidze.

Ed. (Title page): V. T. Frolikin, Candidate of Technical Sciences, Docent; Ed. (Inside book): Ya. N. Luginskiy, Engineer; Ed. of Publishing House: E. A. Shekhtman; Tech. Ed.: V. I. Oreshkina; Managing Ed.: A. S. Zaymovskaya, Engineer.

PURPOSE: This collection of articles is intended for scientific and technical personnel, and for students in advanced courses in

Card 1/3

Problems in Pulse Technique (Cont.)

SOV/5197

schools of higher education.

**COVERAGE:** The articles describe the results of investigations carried out by the MAI (Moscow Aviation Institute) on the following subjects: stability of the operation of multivibrator circuits; comparative analysis of relaxation oscillators with a capacitive plate-grid coupling (phantastron oscillators); a device for pulse-code modulation of voltage into a binary digital code; analysis of the stability of the moment of synchronization of a driven blocking oscillator, and a number of other problems of pulse technique. No personalities are mentioned. References accompany all the articles.

TABLE OF CONTENTS:

Foreword	3
Silin, V. B. Duration of a Multivibrator Pulse as Function of Voltage Variations of the Plate Power-Supply Source	5
Card 2/3	

## Problems in Pulse Technique (Cont.)

SOV/5197

- Markus, G. V., and V. T. Frolikin. Analysis of Relaxation  
Pulse Oscillators With a Plate-Grid Coupling (Phantastron  
Oscillators) 45
- Danilovich, G. A., and A. Yanyshuk. Quantizer for Modula-  
tion of Voltage Into a Digital Code 66
- Danilovich, G. A. Passage of Periodic Voltage Pulses Through  
an RC-Circuit With Variable Parameters 75
- Barinov, K. V. Concerning the Stability of the Starting  
Moment of a Driven Blocking Oscillator 83

AVAILABLE: Library of Congress

Card 3/3

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6/8/61

23632

S/535/60/000/126/001/002

E140/E435

9,3280(147,1159)

AUTHORS: Markus, G.V., Engineer and  
Frolkin, V.T., Candidate of Technical Sciences

TITLE: Analysis of relaxation pulse generators with anode-grid  
coupling (phantastron generators)

PERIODICAL: Moscow. Aviationsionnyy institut. Trudy. No.126. Moscow,  
1960. pp.45-66. Voprosy impul'snoy tekhniki i  
elektronnykh i elektronnykh vychislitel'nykh  
ustroystv

TEXT: The authors are seeking analytical relationships permitting  
estimate of the performance of a given phantastron type circuit.  
The method employed is that of a quasi-linear approximation to the  
two characteristics, based on a Taylor series expansion of a  
function of several variables, retaining only the linear terms.  
From this an equivalent circuit of the two is obtained, from which  
the equivalent circuit of the relaxation oscillator is found.  
The differential equations of the latter are solved and since the  
solution contains exponential terms, these are expanded in series  
and again only the linear terms retained. On the basis of these  
pyramided approximations, the waveforms of the anode and screen

Card 1/2

23632

S/535/60/000/126/001/002

E140/E435

Analysis of relaxation ...

circuit pulses, the time delay and the behaviour of high-precision phantastrons with cathode follower and bootstrap configurations calculated. There are 14 figures and 1 Soviet reference. X

Card 2/2

TYUTIN, A.A., inzh.; FROLKIN, V.T.; MARKUS, G.V.

In regard to V.T.Frolkin and G.V.Marcus' article. Izv. vys. ucheb.  
zav.; radiotekh. 4 no.1:118-119 Ja-F '61. (MIRA 14:4)

1. Institut elektrotekhniki AN USSR (for Tyutin).  
(Amplifiers (Electronics))

MARKUS, I.

Our basic state maps. p. 119. GEODEZIA ES KARTOGRAFIA. (Allami  
Foldmieresi es Terkepeszeti Hivatal) Budapest. Vol. 8, no. 2, 1956.

SOURCE: EEAL, Vol 5, no. 11, November 1956.

MARKUS, I.

"Structural problems of the fulfillment of electric-power requirements."  
p. 111.

ENERGIA ES ATOMTECHNIKA. (Energiagazdalkodasi Tudomanyos Egyesulet).  
Budapest, Hungary, Vol. 12, No. 2/3, Feb./Mar. 1959.

Monthly list of East European Accessions (EEAI), LC, Vol. 8, No. 8,  
August 1959.  
Uncla.

MARKUS, Istvan

Preparing the investments for the Second Five-Year Plan in conjunction  
with the construction and building materials industries. Epites  
szemle 6 no.9:270-272 '62.

1. Epitesugyi Miniszterium Kozgazdasagi Foosztalyanak feleludoja.

ARKUS, J.

Assembly-line building of the National Building Enterprise "PAV",  
Sector K-5 in Forum. p. 455. PM IHN : ... ("Ministerstvo stavebnictví")  
Praha. Vol. 3, no. 11, Nov. 1955.

SOURCE: East European Arms Items List, Vol. 5, no. 1, September 1959

MARKUS, J.; FESUS, L.; KOVACS, Gy.

Genetically determined serum protein polymorphism in the goose.  
Acta vet. acad. sci. Hung. 15 no.4:461-463 '65.

1. Bloodgrouping Laboratory of the University of Veterinary  
Sciences (Director: Prof. J. Markus), Budapest. Submitted  
June 28, 1965.

MARKUS, J.

New technology and small-scale mechanization, p. 172, SKLAR A KERAMIK  
(Ministerstvo lehkého průmyslu) Praha, Vol. 5, No. 8, Aug. 1955

SOURCE: East European Acquisitions List (EEAL) Library of Congress,  
Vol. 5, No. 12, December 1955

MARKUS, J.

New Method in mixing room for class. nos. p. 7. Minsk.  
Ministerstvo lekkogo pravlyaniya. Vol. 1, no. 4, Apr. 1956.

SOURCE: East European Accessions List, Vol. 7, no. 2, September 1956

CZECHOSLOVAKIA / Chemical Technology, Chemical Products and Their Application, Part 2. - H  
Ceramics, Glass, Binders, Concretes. -  
Ceramics.

Abs Jour: Ref Zhur-Khimiya, No 18, 1958, 61692.

Author : Jan Markus.

Inst : Not given.

Title : Modernization of Assembly Workshop Constructed  
in 1950.

Orig Pub: Sklar a keramik, 1956, 6, No 12, 302 - 304.

Abstract: The rentability of the mechanization of an assembly workshop (AWS) constructed in 1950 in order to prolong its use to 1985 is proved. A scheme explaining the modernization principle is proposed. A comparison of the existing AWS with a modernized one is presented.

Card 1/1

Markus, J.

Markus, J. Modern types of annealing furnaces. (To be contd.) p. 81.

Vol. 7, no. 3, Mar. 1957

SKLAR A KERAMIK  
TECHNOLOGY  
Czechoslovakia

So. East European Accessions, Vol. 6, May 1957  
No. 5

CZECHOSLOVAKIA/Chemical Technology. Chemical Products and  
Their Application. Ceramics. Glass. Binders.  
Concrete.

H-13

Abs Jour: Ref Zhur-Khim., No 13, 1958, 44076.

Author : Markus Jan

Inst :

Title : Modern Types of Lehr Furnaces.

Orig Pub: Sklar a keramik, 1957, 7, No 4, 101-104.

Abstract: Lehrs (L) with forced air circulations are heated with gas or electrically. The air is driven by blowers. The entire inside space of the lehr is divided by air currents into definite zones within which the air undergoes a gradual cooling. Heating of lehrs with gas is effected by two methods: 1) a tubular air-heater is installed

Card : 1/3

CZECHOSLOVAKIA/Chemical Technology. Chemical Products and  
Their Application. Ceramics. Glass. Binders.  
Concrete.

H-13

Abs Jcur: Ref Zhur-Khim., Nc 13, 1958, 44076.

below the roof of the furnace; 2) the gas is burned in pipes which are located either under the conveyor or over the annealing area. In using the second method it is possible to regulate very accurately the differences in temperature during annealing. These procedures are most advantageous as concerns output capacity per unit of surface area, as well as the speed of annealing, and coefficient of heat consumption. An 850 x 15900 mm conveyor travels at a rate of 11.4 m/hour. In the lehr can be annealed molded and mold-and-blown articles of manual and semi-automatic production: jars, flasks, vases, ash trays, etc.

Card : 2/3

19

CZECHOSLOVAKIA/Chemical Technology. Chemical Products and  
Their Application. Ceramics. Glass. Binders.  
Concrete.

H-13

Abs Jour: Ref Zhur-Khin., No 13, 1958, 44076.

Charging is manual. Breakage in annealing amounts to 2.6%. The design of a vertical-circulation lehr is described. A lehr has been developed which is heated with generator gas and has a vertical circulation. The heating is effected with burners having separate air- and gas inlets. The lehr heated with generator gas affords all the advantages of an electrically heated. Prior communication see RZhKhin, 1957, 58208.

Card : 3/3

MARKUS, J.

Paying more attention to the technical level of intrafactory operation and transportation.

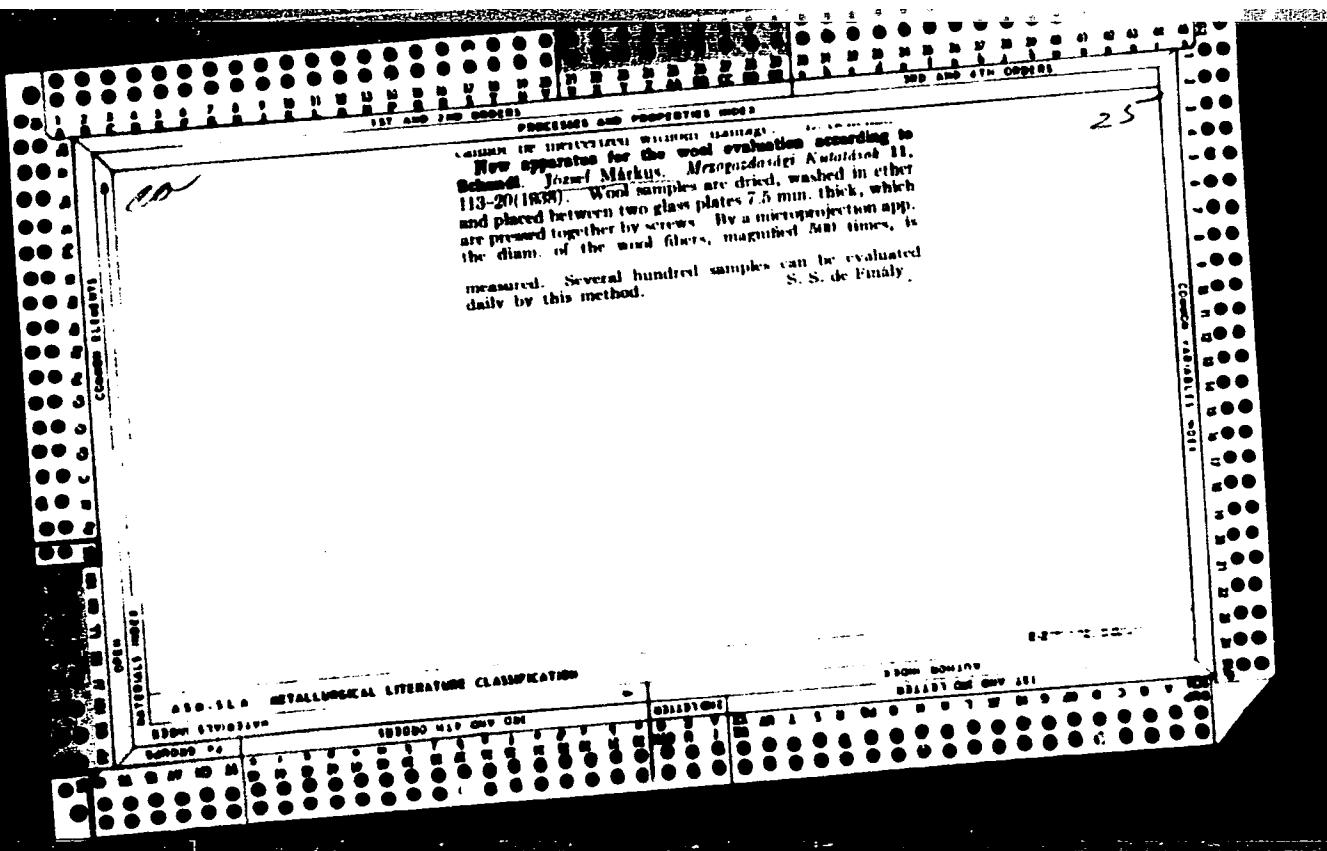
P. 318 (SKLAR a Keramik. Vol. 7, no. 11, Nov. 1957, Praha, Czechoslovakia)

Monthly Index of East European Accessions (EEAA) LC. Vol. 7, no. 2,  
February 1958

MARKUS, Jan

Use of pallets in storing glass melting pots. Sklar a  
keramik 12 no.3:74-76,79 Mr '62.

1. Sdruzene podniku uzitkového skla, Novy Bor.



MARKUS, J

MARKUS, J. Animal husbandry in England. p. 374

Vol. 8, No. 8, August. 1956

AGRARTUDOMANY

AGRICULTURE

Budapest

SO: EAST EUROPEAN ACCESSIONS, Vol. 6, No. 3, March 1957

MARKUS, J.; KOLBAI, K.; MIHALYI, L.

What kind of silos shculd we build? p. 443  
(Magyar Mezogazdasag. Vol. 9, no. 4, 1956. Hungary)

SO: Monthly List of East European Accessions (EEAL) LC, Vol. 6, no. 6, June 1957, Uncl.

HUNGARY/Farm Animals. General Problems

Q-1

Abs Jour : Rof Zhur - Biol., No 8, 1958, No 35590

Author : Markus Jozsef

Inst : ~~Not Given~~

Title : New Aspects of Selection in Animal Husbandry (Novyye perspektivy selektsii v zhivotnovodstve)

Orig Pub : Agrartudomany, 1957, 9, No 3, 31-37

Abstract : It is pointed out that the use of the methods of population genetics and the development of artificial insemination constitute an important stage in the development of selection in livestock breeding. The widening of the basis of selection becomes ever more important as a result of the use of the deep-freezing of semen. New prospects are also opened by successful experiments in the hormonal stimulation of ovulation. The transplantation of the zygotes from the animal-donor to the animal-recipient, the sexual cycle of which is synchronous with the cycle of the donor, will make it possible to increase the number of the progeny of the valuable

Card : 1/2

HUNGARY/Farm Animals, General Problems

Q-1

Abs Jour : Ref Zhur - Biol., No 8, 1958, No 35590

breeding animal by hundreds and even thousands of times as compared with present methods of selection. The author attaches great importance to the utilization of unicellular twins for experimental purposes, and stresses the necessity of the artificial production of identical twins. Despite great difficulties in obtaining economically valuable polyploids of domestic animals, the final success of those efforts is, according to the author, beyond doubt.

Card : 2/2

HUNGARY/Farm Animals. Cattle.

Q

Abs Jour: Ref Zhur-Biol., No 17, 1958, 78689.

Author : Markus, Jozsef.

Inst :

Title : New Imminent Problem in Breeding Cattle in Hungary -  
Evaluation by Progeny.

Orig Pub: Agrartudomany, 1957, 9, No 4, 39-46.

Abstract: No abstract.

Card : 1/1

10

HUNGARY/Farm Animals. Cattle.

Q

Abs Jour: Ref Zhur-Biol., No 17, 1958, 78708.

Author : Markus, Jozsef.

Inst :

Title : On the English Method of Evaluation of Bulls and  
its Use in Hungary.

Orig Pub: Agrartudomny, 1957, 9, No 5, 42-50.

Abstract: The method proposed by Robertson (Edinburgh)  
of simultaneous comparison of cow-offsprings  
of a tested bull according to the first lac-  
tation with contemporary cows of the same farm,  
but from other bulls, for one year at the most,  
fits control of bulls by progeny in Hungary.  
By means of this method, a great number of sires  
can be evaluated yearly. Evaluation of bulls

Card : 1/2

17

HUNGARY/Farm Animals. Cattle.

Q

Abs Jour: Ref Zhur-Biol., Nc 17, 1958, 7870E.

provides analogous indicators in conditions of small and standard content of animals. In the first case it is necessary, however, to have investigated a great number of cows. -- V. A. Kanzyuba.

Card : 2/2

HUNGARY/Farm Animals. General Problems.

Q

Abs Jour: Ref Zhur-Biol., No 4, 1958, 16721.

Author : Markus József

Inst :

Title : The State of Artificial Insemination and Control of  
Progeny in England (Sostoyaniye iskusstvennogo  
osemeneniya i kontrol' potomstva v Anglii)

Orig Pub: Magyar állatorv. lapja, 1957, 12, No 1-2, 51-53.

Abstract: No abstract.

Card : 1/1

MARKUS, Jozsef, dr.

The twelve blood group systems of the hen. Term tud kozl  
6 no.9:425 S '62.

MARKUS, Jozsef, dr., egyetemi tanar

A new hormone? Term tud kozl 8 no.1: 20-22 Ja'64.

1. Allatorvostudomanyi Egyetem, Budapest; "Termeszettudomanyi Kozlony" szerkeszto bizottsagi tagja.

MARKUS, J.; FESUS, L.; KOVACS, G.

Haemoglobin types and their frequencies in the Hungarian spotted cattle. Acta veterin. acad. sci. Hung. 15 no.2:197-204 '65

1. Department of Animal Nutrition (Director: Prof. J. Markus),  
University of Veterinary Sciences, Budapest).

RUMANIA/Human and Animal Physiology (Normal and Pathological)  
Blood Circulation. The Heart.

T

Abs Jour : Ref Zhur Biol., No 6, 1959, 26578

Author : Markus, Kornel; Balogh, Odon; Hornyak, Sander

Inst :

Title : The Changes of Electrocardiogram Connected With  
Vegetative Nervous System in Athletes.

Orig Pub : Rev. med. (RPM), 1957, 3, No 3, 44-47

Abstract : No abstract.

Card 1/1

- 46 -

MARKUS, Laszlo

The role of instruments in organic analytic chemistry. Kem tud  
kozl MTA 14 no.3:302-304 '60. (KEAI 10:9)

1. Szerves Vegyipari es Muanyagipari Kutato Intezet, Budapest.

(Chemistry, Organic) (Chemistry, Analytic)  
(Hexahydroazepinone)

MARKUS, Laszlo; KAYSER, Albert

Quantitative determination of  $\epsilon$ -caprolactam. Magy kem  
lap 15 no.2:86 F '60.

1. Szervesvegyipari es Muanyagipari Kutatointezet.

JEMNITZ, Janos; MARKUS, Laszlo

History of the "three eights." Elet tud 15 no.45:1427-1430  
6 N '60.

1. Magyar Tudomanyos Akademia Tortenelemtudomanyi Intezetenek  
tudomanyos munkatarsai.

MARKUS, László

Dr. Zoltan Pekete, 1877-1962; obituary. Erdélyi no. 11: 481-486 N '62.

1. Erdészeti Tudományos Intézet tudományos munkatarsa, Ugod.

MARKUS, L.

Curves of tree altitudes. p.235.

AZ ERDO. Budapest, Hungary. Vol. 7, no. 6, June 1958.

Monthly List of East European Accessions (EEAI), LC. Vol. 8, No. 9, September 1959  
Uncl.

MARKUS, L.

Sapling appraisal through sampling. p. 344.

AZ ERDO. (Orszagos Erdeszeti Egyesulet) Budapest, Hungary, Vol. 8, No 9, Sept. 1959.

Monthly List of East European Accessions (EEAI) LC, Vol. 8, No. 11, November 1959,  
Uncl.

MARKUS, Laszlo

The work of the Institute of Forest Sciences in the  
experiment forest at Ugod. Erdo 11 no.7:323-326 Jl '62.

MARKUS, Laszlo, dr., tudomanyos munkaloja

Answering the remarks about the analysis of sample and control areas. Eric 13 re. 86370-390 Ag 1-4

U. S. Scientific Institute of Forensic Science.

MARKUS, Laszlo dr.

"Historical atlas of the German settlements in the East" by  
W. Krallert. Reviewed by Laszlo Markus. Geol kart 15 no.2:  
151-152 '63.

MARKUS, Laszlo, dr.

~~Contributions to the historical atlas of Southwest Germany\*~~  
by Otto Herding, Bernhard Zeller. Vol. 1. Reviewed by Laszlo  
Markus. Geod kart 15 no.5:392 '63.

MARKUS, Laszlo, dr.

"Contributions to the historical atlas of Southwest Germany"  
by Karl-Friedrich Eisele. Vol. 2. Reviewed by Laszlo Markus.  
Geod kart 15 no.5:393 '63.

MARKUS, L.

**I. Influence of Germination.** I. **Influence of Germination.** I. **Influence of Germination.**

**A. Persicaria extract on Germination.** Janos Walker, János Nagy, and Ferenc Nagymihályi. *Jagor-Nalecz Inst., Nagykáta, and Persicaria*. *Agrochemical Inst., Nagymihályi, Hungary.* *Acta Agricola Hungaricae*, 2, 159-63 (1950).—The aq. ext. of the inner portions of *C. sativus* (1) inhibited germination of *Aster alpinus*, *Ranunculus*, *Rapana*, *Salix*, *Carex*, *Agrostis capillaris*, *Allium cepa*, *Luzula ciliata*, *Fritillaria*, and *L. sativa* (inhibiting effect highest in *L. sativa*, lowest in *L. ciliata*). Mean treatment of the ext. diminished its inhibiting effect slightly. Fats, dith., up to 30 times shared proportionally lower inhibitory; 60-times dith. enhanced germination. The aq. ext. of the constituent with inhibiting effect was different in individual pumpkins. Pericarp and placentae tissue and aq. washings of seeds contained the inhibiting factor, the pericarp being least suitable for extraction. Optimal ext. was obtained when the pericarp was ground with an equal amt. of water and stored for 4 hrs. The inhibitory could not be removed by treating fresh pericarp in a Soxhlet app. with Et<sub>2</sub>O. Ext. with 51-100% acetone was successful. The inhibitor can be sept. from the aq. ext. by absorption on active C and elution with water. Treatment of the aq. ext. with CaCO<sub>3</sub> and a subsequent filtration did not remove the inhibiting factor. The water ext. lost its inhibiting effect after storage of several hrs. The aq. ext. and the dried pumpkin pulp lost their inhibiting effects when heated to 40°. Ultraviolet irradiation did not affect the inhibiting influence of aq. ext. when applied for 10-150 min. at a distance of 10-30 cm. The vapors of sliced pumpkin pericarp showed a vigorous inhibiting effect, also the distillate obtained by steam distillation of pumpkin pulp and its vapors were inhibitive. When a whole pumpkin was germinated for 7 days by inserting a glass tube and sucking air through its inner portion, the inhibiting effect was removed and seeds germinated inside of the pumpkin skin. The characteristic smell of freshly sliced pumpkin pericarp is organoleptically perceptible. II. **Influence of Tomato extract on Germination.** Janos Walker, Ferenc Nagymihályi and Anna Mária Pálvai. *Food, 200-9.—Fresh tomato juice and its diths. up to 1:50 and the steam distillate of filtered tomato juice showed an inhibiting effect on the germination of *Oenothera lamarckiana* and *tomato*. The germination experiments were performed in airtight Petri dishes with the seeds placed on filter paper of 5.5 cm. diam., moistened with 5 ml. liquid. Another filter paper of the same size was placed above the seeds, on the inner surface of the upper Petri dish and glued there by gelatin. This upper paper was moistened with 1 ml. of the liquid to be tested to determine the effect of its vapors. Tomato seeds were generally more sensitive than *Oenothera* seeds. Placing the seeds on a filter paper moistened with undil. tomato juice caused 100% inhibition of germination of *Oenothera* and *tomato*. Tomato juice dith. 1:3 showed 100% inhibition on tomato seeds, whereas the effect on *Oenothera* seeds was much lower. Vapors of tomato juice and the steam distillate of tomato juice showed inhibiting effects indicating that vapors contain a portion of the volatile active inhibitors. The fractions obtained at the start of steam distill. of tomato juice were more effective than the end fractions. The inhibiting effect of vapors of distillates was definite on *Oenothera* whereas on *tomato* in some experiments, considerable inhibition was observed and in other experiments, an enhancing effect on germination was found. The inhibiting effect disappeared in all examined liquids when stored for several days, even if kept in a refrigerator.*

Markus, haszlo (MRS.)

After the first few days of the experiment, the results were encouraging. The first two groups of 100 each had been exposed to the same amount of radiation as the control group, but they had been given 1000 units of D<sub>3</sub> Metavine. The first group had been given 1000 units of D<sub>3</sub> Metavine orally, and the second group had been given 1000 units of D<sub>3</sub> Metavine intravenously. The results showed that the first group had a significantly higher survival rate than the control group, while the second group had a slightly lower survival rate. This was a surprising result, as it had been expected that the oral route would be more effective than the intravenous route. The results also showed that the survival rate increased with increasing doses of D<sub>3</sub> Metavine. The third group, which had been given 2000 units of D<sub>3</sub> Metavine orally, had the highest survival rate of all the groups. The fourth group, which had been given 2000 units of D<sub>3</sub> Metavine intravenously, had a slightly lower survival rate than the third group. The fifth group, which had been given 3000 units of D<sub>3</sub> Metavine orally, had the highest survival rate of all the groups. The sixth group, which had been given 3000 units of D<sub>3</sub> Metavine intravenously, had a slightly lower survival rate than the fifth group. The seventh group, which had been given 4000 units of D<sub>3</sub> Metavine orally, had the highest survival rate of all the groups. The eighth group, which had been given 4000 units of D<sub>3</sub> Metavine intravenously, had a slightly lower survival rate than the seventh group. The ninth group, which had been given 5000 units of D<sub>3</sub> Metavine orally, had the highest survival rate of all the groups. The tenth group, which had been given 5000 units of D<sub>3</sub> Metavine intravenously, had a slightly lower survival rate than the ninth group. The eleventh group, which had been given 6000 units of D<sub>3</sub> Metavine orally, had the highest survival rate of all the groups. The twelfth group, which had been given 6000 units of D<sub>3</sub> Metavine intravenously, had a slightly lower survival rate than the eleventh group. The thirteenth group, which had been given 7000 units of D<sub>3</sub> Metavine orally, had the highest survival rate of all the groups. The fourteenth group, which had been given 7000 units of D<sub>3</sub> Metavine intravenously, had a slightly lower survival rate than the thirteenth group. The fifteenth group, which had been given 8000 units of D<sub>3</sub> Metavine orally, had the highest survival rate of all the groups. The sixteenth group, which had been given 8000 units of D<sub>3</sub> Metavine intravenously, had a slightly lower survival rate than the fifteenth group. The seventeenth group, which had been given 9000 units of D<sub>3</sub> Metavine orally, had the highest survival rate of all the groups. The eighteenth group, which had been given 9000 units of D<sub>3</sub> Metavine intravenously, had a slightly lower survival rate than the seventeenth group. The nineteenth group, which had been given 10000 units of D<sub>3</sub> Metavine orally, had the highest survival rate of all the groups. The twentieth group, which had been given 10000 units of D<sub>3</sub> Metavine intravenously, had a slightly lower survival rate than the nineteenth group. The twenty-first group, which had been given 11000 units of D<sub>3</sub> Metavine orally, had the highest survival rate of all the groups. The twenty-second group, which had been given 11000 units of D<sub>3</sub> Metavine intravenously, had a slightly lower survival rate than the twenty-first group. The twenty-third group, which had been given 12000 units of D<sub>3</sub> Metavine orally, had the highest survival rate of all the groups. The twenty-fourth group, which had been given 12000 units of D<sub>3</sub> Metavine intravenously, had a slightly lower survival rate than the twenty-third group. The twenty-fifth group, which had been given 13000 units of D<sub>3</sub> Metavine orally, had the highest survival rate of all the groups. The twenty-sixth group, which had been given 13000 units of D<sub>3</sub> Metavine intravenously, had a slightly lower survival rate than the twenty-fifth group. The twenty-seventh group, which had been given 14000 units of D<sub>3</sub> Metavine orally, had the highest survival rate of all the groups. The twenty-eighth group, which had been given 14000 units of D<sub>3</sub> Metavine intravenously, had a slightly lower survival rate than the twenty-seventh group. The twenty-ninth group, which had been given 15000 units of D<sub>3</sub> Metavine orally, had the highest survival rate of all the groups. The thirtieth group, which had been given 15000 units of D<sub>3</sub> Metavine intravenously, had a slightly lower survival rate than the twenty-ninth group. The thirty-first group, which had been given 16000 units of D<sub>3</sub> Metavine orally, had the highest survival rate of all the groups. The thirty-second group, which had been given 16000 units of D<sub>3</sub> Metavine intravenously, had a slightly lower survival rate than the thirty-first group. The thirty-third group, which had been given 17000 units of D<sub>3</sub> Metavine orally, had the highest survival rate of all the groups. The thirty-fourth group, which had been given 17000 units of D<sub>3</sub> Metavine intravenously, had a slightly lower survival rate than the thirty-third group. The thirty-fifth group, which had been given 18000 units of D<sub>3</sub> Metavine orally, had the highest survival rate of all the groups. The thirty-sixth group, which had been given 18000 units of D<sub>3</sub> Metavine intravenously, had a slightly lower survival rate than the thirty-fifth group. The thirty-seventh group, which had been given 19000 units of D<sub>3</sub> Metavine orally, had the highest survival rate of all the groups. The thirty-eighth group, which had been given 19000 units of D<sub>3</sub> Metavine intravenously, had a slightly lower survival rate than the thirty-seventh group. The thirty-ninth group, which had been given 20000 units of D<sub>3</sub> Metavine orally, had the highest survival rate of all the groups. The forty-th group, which had been given 20000 units of D<sub>3</sub> Metavine intravenously, had a slightly lower survival rate than the thirty-ninth group. The forty-first group, which had been given 21000 units of D<sub>3</sub> Metavine orally, had the highest survival rate of all the groups. The forty-second group, which had been given 21000 units of D<sub>3</sub> Metavine intravenously, had a slightly lower survival rate than the forty-first group. The forty-third group, which had been given 22000 units of D<sub>3</sub> Metavine orally, had the highest survival rate of all the groups. The forty-fourth group, which had been given 22000 units of D<sub>3</sub> Metavine intravenously, had a slightly lower survival rate than the forty-third group. The forty-fifth group, which had been given 23000 units of D<sub>3</sub> Metavine orally, had the highest survival rate of all the groups. The forty-sixth group, which had been given 23000 units of D<sub>3</sub> Metavine intravenously, had a slightly lower survival rate than the forty-fifth group. The forty-seventh group, which had been given 24000 units of D<sub>3</sub> Metavine orally, had the highest survival rate of all the groups. The forty-eighth group, which had been given 24000 units of D<sub>3</sub> Metavine intravenously, had a slightly lower survival rate than the forty-seventh group. The forty-ninth group, which had been given 25000 units of D<sub>3</sub> Metavine orally, had the highest survival rate of all the groups. The fifty-th group, which had been given 25000 units of D<sub>3</sub> Metavine intravenously, had a slightly lower survival rate than the forty-ninth group. The fifty-first group, which had been given 26000 units of D<sub>3</sub> Metavine orally, had the highest survival rate of all the groups. The fifty-second group, which had been given 26000 units of D<sub>3</sub> Metavine intravenously, had a slightly lower survival rate than the fifty-first group. The fifty-third group, which had been given 27000 units of D<sub>3</sub> Metavine orally, had the highest survival rate of all the groups. The fifty-fourth group, which had been given 27000 units of D<sub>3</sub> Metavine intravenously, had a slightly lower survival rate than the fifty-third group. The fifty-fifth group, which had been given 28000 units of D<sub>3</sub> Metavine orally, had the highest survival rate of all the groups. The fifty-sixth group, which had been given 28000 units of D<sub>3</sub> Metavine intravenously, had a slightly lower survival rate than the fifty-fifth group. The fifty-seventh group, which had been given 29000 units of D<sub>3</sub> Metavine orally, had the highest survival rate of all the groups. The fifty-eighth group, which had been given 29000 units of D<sub>3</sub> Metavine intravenously, had a slightly lower survival rate than the fifty-seventh group. The fifty-ninth group, which had been given 30000 units of D<sub>3</sub> Metavine orally, had the highest survival rate of all the groups. The sixty-th group, which had been given 30000 units of D<sub>3</sub> Metavine intravenously, had a slightly lower survival rate than the fifty-ninth group. The sixty-first group, which had been given 31000 units of D<sub>3</sub> Metavine orally, had the highest survival rate of all the groups. The sixty-second group, which had been given 31000 units of D<sub>3</sub> Metavine intravenously, had a slightly lower survival rate than the sixty-first group. The sixty-third group, which had been given 32000 units of D<sub>3</sub> Metavine orally, had the highest survival rate of all the groups. The sixty-fourth group, which had been given 32000 units of D<sub>3</sub> Metavine intravenously, had a slightly lower survival rate than the sixty-third group. The sixty-fifth group, which had been given 33000 units of D<sub>3</sub> Metavine orally, had the highest survival rate of all the groups. The sixty-sixth group, which had been given 33000 units of D<sub>3</sub> Metavine intravenously, had a slightly lower survival rate than the sixty-fifth group. The sixty-seventh group, which had been given 34000 units of D<sub>3</sub> Metavine orally, had the highest survival rate of all the groups. The sixty-eighth group, which had been given 34000 units of D<sub>3</sub> Metavine intravenously, had a slightly lower survival rate than the sixty-seventh group. The sixty-ninth group, which had been given 35000 units of D<sub>3</sub> Metavine orally, had the highest survival rate of all the groups. The七十组，即给予35000单位D<sub>3</sub> Metavine口服的组，具有最高的存活率。而给予35000单位D<sub>3</sub> Metavine静脉注射的组，其存活率略低。因此，D<sub>3</sub> Metavine口服可能比静脉注射更有效。

MARKUS, LASZLO

Separation of the carbohydrates of yeast, and examination of their rearrangement in connection with the alternation of generations. Béla Paxony<sup>1</sup> and Mrs. László Markus (Magyar Tudományos Akad. Genetikai Intézete, Budapest). *Agrokhimia & Technika* 4, 225-38 (1955) (English and Russian summaries).—The carbohydrates (I) of a wine yeast and of yeasts used in the Hungarian baking industry were investigated. After sepg. the I according to Trevelyan, et al. (C.A. 46: 4053a; 47: 4328) the fractions were assayed with reference to glucose with the anthrone reagent. Trehalose (II), mannan (III), glycogen (IV), and glucan (V) were found in both the vegetative and the sporulated substance. The Hungarian bakers' yeasts were found to be relatively poor in I, contg. only small quantities of each of these I. The vegetative cell mass of a wine yeast, strain Bajatofnárd 2, propagated mostly anaerobically, was also assayed for I. The mass was then allowed to sporulate (P., *Acta Microbiol.* 1, 40 (1954)), and the spore mass was likewise analyzed. The spore mass was found to be richer in carbohydrates than the vegetative cell mass. It contained somewhat more II, considerably more III and IV, while the amt. of V remained unchanged. On enriching the vegetative cell mass with IV to about 20% of the dry substance, a marked drop in the rate of sporulation occurred. It is concluded that IV plays a lesser role in sporulation than was believed until recently. If present in greater amts., it probably exercises an inhibitory effect. Earlier workers, using an indirect method of estg. IV, must have obtained erroneous results concerning its concn., and came to the opposite conclusion. The method of fractionation and dectn. used here was found to be quick and sensitive, and suitable for the examn. of other microorganisms when modified but slightly. —27 references. —Tibor Winter

PA 18/49T75

MARKUS, L. M. PROF

USSR/Medicine - Syphilis, Therapy May/Jun 48  
Medicine - Arsenic and Arsenic Compounds

"Arsenotherapy of Syphilitics Who Have Suffered  
From Arsenic Complications," Prof I. M. Markus,  
I. S. Dukhina, Asst., V. G. Borovskaya, 5<sup>th</sup> pp

"West Veneryl 1 Dermatol" No 3

Reports observations on 50 female syphilitics.  
Concludes that in majority of cases, exclusive  
of erythrodermia and hemorrhagic encephalitis,  
further arsenic-bismuth treatment of patients  
who have suffered from arsenic complications  
is possible. Slow injection of selvargan  
preparations (8-10 minutes) is best prophylactic  
18/49T75.

USSR/Medicine - Syphilis, Therapy May/Jun 48  
(Contd)

Method against nitritoid reactions. Intermittent  
administration of arsenic often enables  
arsenotherapy to be continued and replacement of  
mapharsen with novarsenol enables preparation  
to be injected slowly, thus assisting the patient  
to tolerate it.

18/49T75

MARKUS, L.M.; ZAKHAR'YEVSKAYA, N.N.; VASINA, Ye.N.; LEVITINA, P.Ye.;  
MATIN, S.M.

Treatment of tabetic atrophy of optic nerves by intramuscular  
injection of sulfa suspensions. Vest.vener. no.2:56-57 Mr-Apr '50.  
(CLML 19:3)

1. Of the Syphilological Clinic (Head -- Prof. L.M. Markus), Ukrainian  
Scientific-Research Skin-Venereological Institute (Director -- Prof.  
A.M. Krichevskiy).

SHCHERPKOVSKAYA, Ye.V., kandidat meditsinskikh nauk. (Khar'kov); GEKHTMAN,  
M.Ya. (Khar'kov); VOLOVIK, S.S.(Khar'kov); LINSKOVA, F.V.(Khar'kov);  
SOKOL'SKIY, S.L., kandidat meditsinskikh nauk. (Khar'kov); DUKHINA,  
B.S. (Khar'kov); MARKUS, I.M. (Khar'kov)

New effective method for the compound treatment of tabetic atrophy  
of the optic nerves. Vrach. delo no.1:89 Ja '57 (MLRA 10:4)

1. Ukrainskiy nauchno-issledovatel'skiy kozhno-venerolgoicheskii  
institut.  
(OPTIC NERVE--DISEASES) (NERVOUS SYSTEM--SYPHILIS)

MARSH, H.

"Water supply of Bulgaria." :. 22°.

MINERÁLIAI KÖZLEMÉNY. MÉTÉGORÍA I. MÁTRAI J. MÁTRAI. Magyar Államképző Intézet.  
Budapest, Hungary, Vol. 29, No. 2, Apr. 1977.

Monthly list of East European Acquisitions (MELA), 19, Vol. 9, No. 1, April 1979  
1979.  
Unclassified.

MARKUS, M. M.

Semiconducting phases in the system  $A_3^{II}B_2^{VI}$ - $A^{II}B^{VI}$  (? - Sic.).  
L. V. Kradinova, I. K. Polushina.

Anomalous scattering of x-rays in  $Ga_2Se_3$  and its solid solutions.  
A. A. Vaynolin and M. M. Markus.  
(Presented by A. A. Vaynolin--25 minutes).

Papers not presented.)

Diffusion of impurities in gallium arsenide. B. I. Boltaks, V. I. Sokolov,  
F. S. Shishyanu.

Influence of the impurities silver and gold on the electrical properties  
of gallium arsenide. B. I. Boltaks, V. I. Sokolov, F. S. Shishyanu.

Report presented at the 3rd National Conference on Semiconductor Compounds,  
Kishinev, 16-21 Sept 1963

L-23847-65 EWT(m)/EWA(d)/EWP(j)/EWP(t)/EWP(b) IJP(c) RDW/JD/MLK/RM  
ACCESSION NR: AT4044569 S/0000/64/000/000/0153/0157

AUTHOR: Radaustan, S.I. (Candidate of physico-mathematical sciences) Maslyanko, R.A.,  
Markus, M.M.

TITLE: Some complex systems based on indium telluride

SOURCE: AN MolSSR. Institut fiziki i matematiki. Issledovaniya po poluprovodnikam; novyye poluprovodnikovyye materialy\* (Semiconductor research; new semiconductor materials). Kishinev, Gos. izd-vo Kartya Moldovenyaske, 1964, 153-157

TOPIC TAGS: indium telluride, indium alloy, tellurium alloy, selenium alloy, semiconductor, thiogallate lattice, sphalerite lattice, telluride hardness

ABSTRACT: X-ray, micrographic and microhardness studies were carried out on 27 ternary and quaternary systems in the sections  $(CdIn_2Se_4)_x - (CdIn_2Te_4)_{1-x}$ ,  $(Cd_2SeTe)_3x - (In_4Se_3Te_9)_{1-x}$  and  $(AgInTe_2)_3x - (In_2Te_9)_{2(1-x)}$ . Determinations of the lattice constants showed that the first series contained only thiogallate type lattices, with the exception of the pure  $CdIn_2Se_4$ . In the second series, thiogallate structures seemed to alternate with sphalerite structures, while in the third series, wide ranges of thiogallate ( $x = 0.1-0.5$ )

Card - 1/2

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ACCESSION NR: AT4044569

and chalcopyrite ( $x = 0.7-1.0$ ) structures were separated by a narrow 2-phase zone. Neither X-ray patterns nor photomicrographs are presented. Microhardness was studied only in the first series, where it varied from  $220 \text{ kg/mm}^2$  for  $\text{CdIn}_2\text{Te}_4$  to  $300 \text{ kg/mm}^2$  for  $\text{CdIn}_2\text{Se}_4$ , and in the third series, where it increased from 180 to  $240 \text{ kg/mm}^2$  as  $x$  increased from 0 to 0.5. Orig. art. has 2 tables and 1 figure.

ASSOCIATION: Institut fiziki i matematiki AN MolSSR (Institute of Physics and Mathematics, AN Mol SSR)

SUBMITTED: 13Dec63

ENCL: 00

SUB CODE: IC,MM

NO RET SOV: 009

OTHER: 004

Card 2/2

ACCESSION NR: AP4041376

S/0048/84/028/006/1053/1056

AUTHOR: Derid, O.P.; Radutsan, S.I.; Mirgorodskiy, V.M.; Markus, M.M.

TITLE: Physical and chemical properties of some alloys of the indium-selenium-tellurium-cadmium system (Report, Third Conference on Semiconductor Compounds held in Kishinev 16 to 21 Sep 1962)

SOURCE: AN SSSR. Izvestiya. Seriya fizicheskaya, v.28, no.6, 1964, 1053-1056

TOPIC TAGS: alloy system, semiconductor property, solid solution, indium, selenium, tellurium, cadmium

ABSTRACT: Those alloys of the In-Se-Te-Cd system were investigated, the compositions of which are represented by points in the CdTe-CdSe-In<sub>2</sub>Te<sub>3</sub>-In<sub>2</sub>Se<sub>3</sub> plane of the tetrahedral diagram between the In<sub>2</sub>Te<sub>3</sub>-In<sub>2</sub>Se<sub>3</sub> and CdIn<sub>2</sub>Te<sub>3</sub>-CdIn<sub>2</sub>Se<sub>3</sub> traverses. Solid solutions were formed over a wide range of composition, as shown by the shaded portion of the diagram in Figure 1 of the Enclosure 01. All these solid solutions crystallized with the zincblende structure. The solid solutions with small cadmium content exhibited superstructure lines characteristic of In<sub>2</sub>Te<sub>3</sub>; those with large cadmium content (except the solutions very close in composition to CdIn<sub>2</sub>Se<sub>3</sub>)

Card 1/6

ACCESSION NR: AP4041378

were ordered similarly to CdIn<sub>2</sub>Te<sub>4</sub>; and the solid solutions with intermediate cadmium content formed disordered crystals. The solid solutions with compositions (In<sub>2</sub>Teg)<sub>x</sub>(In<sub>2</sub>Se<sub>3</sub>)<sub>1-x</sub> and (CdIn<sub>2</sub>Te<sub>4</sub>)<sub>x</sub>(CdIn<sub>2</sub>Se<sub>4</sub>)<sub>1-x</sub> were investigated in more detail than the others. Liquidus and solidus curves are given for these systems, and the lattice constant was found to vary smoothly with composition in accord with Vegard's law in both systems. The electric conductivity of the (In<sub>2</sub>Teg)<sub>x</sub>(In<sub>2</sub>Se<sub>3</sub>)<sub>1-x</sub> solutions increased by a factor 100 as x decreased from 1 to 0.83 and decreased to approximately its value for In<sub>2</sub>Teg as x decreased to 0.80. The temperature dependence of the conductivity was that characteristic of semiconductors. It is suggested that the formation of solid solutions by simultaneous iso- and heterovalent substitution should be possible also in other complex semiconductor systems. "The authors express their deep gratitude to Professor N.A.Goryunova for her great interest in the work and for valuable advice proffered during discussions of it, and also to R.A. Maslyanko of the Institute of Physics and Mathematics of the Academy of Sciences of the Moldavian SSR for her participation in the experimental work." Orig.art.has: 4 figures.

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L-32197-65 EWT(m)/EWP(b)/EWP(t) IJP(c) RDW/JD/GS

ACCESSION NR: AT5005417

S/0000/64/000/001/0031/0032

16  
31

AUTHOR: Maslyanko, R. A.; Markus, M. M.

TITLE: A study of some complex semiconductor phases having a sphalerite structure

SOURCE: Nauchnaya konferentsiya molodykh uchenykh Moldavii. 3d. Trudy, no. 1:  
Yestestvenno-tehnicheskiye nauki (Natural and technical sciences). Kishinev,  
Gosizdat Kartya Moldovenyaske, 1964, 31-32

TOPIC TAGS: solid solution, semiconductor phase, sphalerite structure, sphalerite  
semiconductor, indium telluride, indium selenide, debyogram

ABSTRACT: The possibility of solid solution formation was studied for the semi-conductor compounds  $\text{AgInTe}_2$  with  $\text{In}_2\text{Te}_3$  (system I), and  $\text{CdIn}_2\text{Se}_4$  with  $\text{CdIn}_2\text{Te}_4$  (system II). Investigations covered 14 mixtures of the first and 13 mixtures of the second type. The Debye powder (X-ray) diagrams showed intensive lines due to a sphalerite structure accompanied by other weaker lines. The analysis of various tests indicated that system I exhibits a solubility domain from 50% towards the  $\text{In}_2\text{Te}_3$  region, while system II can produce solid solutions over the entire concentration domain.

Card 1/2

32177-69

ACCESSION #: AF5005417

ASSOCIATION: None

SUBMITTED: 07 Feb 1986

ENGL: 00

SUB CODE: 88

NO REF Sov: 000

OTHER: 000

Card 2/2

1-60841-65 EWT(1)/EWT(m)/EWG(m)/T/EWP(t)/EWP(b)/EWA(h) IJP(c)

ACCESSION NR: AR5012174 RDW/JD/JG/AT

UR/0081/65/000/005/B079/B080

27

SOURCE: Ref. zh. Khimiya, Abs. 5B545

26

AUTHOR: Maslyanko, R. A., Markus, M. M.

B

TITLE: Investigation of some complex semiconductor phases with a sphalerite structure

CITED SOURCE: Tr. 3-y konferentsii molodykh uchenykh Moldavii. Testestv.-tekhn. n. Vyp. 1. Kishinev, Kartya Moldovenyasko, 1964, 31-32

TOPIC TAGS: solid solution, phase equilibrium, solubility, semiconductor research, cadmium compound, indium compound, indium telluride, selenium compound, silver compound, tellurium compound

TRANSLATION: Using the microstructural, radiographic, and thermographic methods of analysis, a study was made of the possibility of forming solutions between the semiconductor compounds  $\text{AgInTe}_2$  and  $\text{In}_2\text{Te}_3$ , as well as between  $\text{CdIn}_2\text{Se}_4$  and  $\text{CdIn}_2\text{Te}_4$ . On the basis of the data obtained, the assumption is made that in the

Card 1/2

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ACCESSION NR: AR5012174

System AgInTe<sub>2</sub> - In<sub>2</sub>Te<sub>3</sub>: the solubility of In<sub>2</sub>Te<sub>3</sub> reaches 50%, and in the system CdIn<sub>2</sub>Se<sub>4</sub> - CdIn<sub>2</sub>Te<sub>4</sub> the two components are mutually soluble in all concentrations.  
Ya. Shenkin.

SUB CODE: SS, GC

ENCL: 00

jlk  
Card 2/2

STANKEVICH, N.; MARKUS, M., glavnyy inzhener shakty.

Principles of the new technology. Mast.ugl. 5 no.3:3-6 Mr '56.  
(MLRA 9:7)

1.Machal'nik shakty "Polysayevskaya-Severnaya" kombinata Kuzbass-  
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(Hydraulic mining)

2567. HYDRAULIC COAL MINING. Markus, M.N. (Mekhan. Trud, Byazhol, Rabot (Noch), ordinis Nk, Moscow) Nov. 1955, vol. 9, 5-13; abstr. in Clickout, 4 Feb. 1956, vol. 92, 190. A description of the operations in the hydraulic exploitation of a coal seam in the Polyusovskaya Severnaya mine (U.S.S.R.). Chambers 5-6 m wide and 6-8 m deep are preliminarily excavated in the seam and the coal washed down by hydraulic projector. Production from one projector is about 8,000 tons per month; production per shift (18 men), 180-200 tons, output per hour-shift per month 120 tons.

MARKUS, M., inzh.

Hydraulic mine of the near future. Mast. ugl. 7 no.8:17 Ag '58.  
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1. Vsesoyuznyy nauchno-issledovatel'skiy institut Gidrougol'.  
(Coal mines and mining) (Hydraulic mining)

NUROK, Grigoriy Arkad'yevich, prof., doktor tekhn.nauk. Prinimali uchastie:  
RAYNIS, V.V., kand.tekhn.nauk; MARKUS, M.M., gornyy inzh.. KHOLIN,  
N.D., prof., retsenzent; OGURTSOV, A.I., dotsent, retsenzent;  
IVANOV, A.Ye., otv.red.; ZHUKOV, V.V., red.izd-va; PROZOROVSKAYA,  
V.L., tekhn.red.

[Introducing hydraulic mining machinery] Gidromekhanizatsiya  
gornykh rabot. Moskva, Gos.nauchno-tekhn.izd-vo lit-ry po gornomu  
delu. 1959. 391 p. (MIRA 12:11)  
(Hydraulic mining--Equipment and supplies)

GUBANOV, M.S. [deceased]; MARKUS, M.N.

Experience in using the hydraulic method in mining the thin coal  
seams of the Donets Basin. Ugol' 37 no.6:28-34 Je '62. (MIR 15:7)

1. Direktor Ukrainskogo nauchno-issledovatel'skogo instituta  
gidrodobychi ugliya (for Gubanov). 2. Nachal'nik Yanovskogo  
gidrorudnika (for Markus).  
(Donets Basin—Hydraulic mining)

BALAZSOVICH, Boldizsar; MARKUS, Miklos

Construction of distance heating pipelines. Magy ep ipar 13  
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NAGY, Pal; MARKUS, Miklos

Concentration of constructions and the development of the construction time. Epites szemle 8 no.3:91-95 '65.

1. Head, Division of Coordination of the Main Directorate of Construction Industry of the Ministry of Construction, Bu'apest (for Nagy). 2. Division of Technical Development of the Ministry of Construction, Budapest (for Markus).

9.2180(1162,1331)  
9.2110(1385,1043,1153)

85022

S/048/60/024/010/031/033  
B013/B063

AUTHORS: Strelets, P. L., Serova, I. A., Yatsenko, N. D., and  
Markus, P. L.

TITLE: Characteristics of the Technology and Properties of Some  
Piezoelectric Ceramic Materials

PERIODICAL: Izvestiya Akademii nauk SSSR. Seriya fizicheskaya. 1960,  
Vol. 24, No. 10, pp. 1296 - 1299

TEXT: Production conditions of the following piezoelectric compounds were examined: 95%BaTiO<sub>3</sub>-5%CaTiO<sub>3</sub>-0.75%CaCO<sub>3</sub>; 40%BaNb<sub>2</sub>O<sub>6</sub>-60%PbNb<sub>2</sub>O<sub>6</sub>; 55%PbZrO<sub>3</sub>-45%PbTiO<sub>3</sub>. The conventional ceramic process served as the basis, but it was varied for each new composition according to its specific properties. The solid BaTiO<sub>3</sub>-CaTiO<sub>3</sub>-CaCO<sub>3</sub> solution was synthesized directly from a mixture of corresponding salts and oxides at 1300°C. When selecting the burning conditions, one must take the prescribed temperature into account, since to exceed it would mean to

Card 1/4

85022

Characteristics of the Technology and  
Properties of Some Piezoelectric Ceramic  
Materials

S/048/60/024/010/031/033  
B013/B063

deteriorate the piezoelectric and dielectric properties of the material concerned. The elements were polarized at a temperature near the Curie point ( $118^{\circ}\text{C}$ ) at a field strength of  $0.8 \text{ kv mm}^{-1}$  in the air or in an organosilicon liquid of the type "КАЛОРИЯ 2" (Kaloriya 2). The production process of  $\text{BaNb}_2\text{O}_6\text{-PbNb}_2\text{O}_6$  is simpler than that of barium titanate.

This solid solution was likewise directly synthesized from the corresponding salts and oxides by mixing and subsequent burning at  $1000^{\circ}\text{C}$ . Piezoelectric and dielectric properties of the elements are strongly influenced by the chemical composition of the niobium pentoxide used. Table 1 gives the properties of some specimens prepared with different impurity concentrations out of eight experimental sets of niobium pentoxide. The optimum values of the properties of piezoceramic elements can be held to be dependent upon a definite ratio of the impurities contained in niobium pentoxide. A great advantage of this new material is the fact that molded elements can be burned at relatively low temperatures ( $1260 \pm 1280^{\circ}\text{C}$ ). Moreover, no specific medium is necessary in the final burning, due to a low thermal dissociation of lead

Card 2/4

85022

Characteristics of the Technology and  
Properties of Some Piezoelectric Ceramic  
Materials

S/048/60/024/010/031/033  
B013/B063

metaniobate at  $1000 \div 1300^{\circ}\text{C}$ . The mentioned material polarized at  $170 \div 180^{\circ}\text{C}$  and  $3 \div 5 \text{ kv mm}^{-1}$ . The production process of the solid  $\text{PbZrO}_3\text{-PbTiO}_3$  solution differs only little from the barium titanate synthesis. Nevertheless, due to a considerable volatility of lead oxide at over  $1000^{\circ}\text{C}$ , the process is not exempt from difficulties. Fig.1 gives the dependence of the volatility of lead oxide on temperature, on the duration of treatment, on the thickness and volume of the specimen. The study of the character of the lead oxide volatility has made it possible to calculate the excess quantum for production conditions in the practice, that must be added prior to the ultimate burning, in order to obtain piezoceramic elements of desired composition. Table 2 indicates Curie points of the examined compositions as compared with barium titanate. Fig.2 shows temperature dependences of the main parameters of the new materials and barium titanate. The course of the curves speaks in favor of the new piezoelectric materials. G. A. Smolenskiy is mentioned. The present paper was read at the Third Conference on ✓

Card 3/4